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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BAYER CHEMICALS CORPORATION
PATENT DEPARTMENT
100 BAYER ROAD
PITTSBURGH, PA 15205-9741

EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,988

Applicant(s)

SICIUS ET AL.

Examiner

Daniel S. Metzmaier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 9-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-26 are pending.

Election/Restrictions

1. Claims 9-24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without** traverse in Paper filed April 21, 2003.

Response to Amendment

2. The amendment to the Specification filed on October 20, 2003 does not comply with the requirements of 37 CFR 1.121 because the directions to amend page 5, line 2, does not correspond to the specification and should refer to line 21 or 22. Applicant is required to cancel the previous amendment to page 5, line 2, and insert the correct directions in response to this Office action to be responsive.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is indefinite and fails to properly point out the invention in stating an amount of "the polysuccinimide", which is based on the method of application rather than the claimed conditioning agent. The concentration is based on the water systems

being treated and would clearly be dependent on the concentration of the polysuccinimide in the conditioning agent and the amount of conditioning agent added to the water system. Neither the concentration of the polysuccinimide in the conditioning agent or the concentration of the conditioning agent employed in the water system is set forth and therefore it is unclear what is the amount of polysuccinimide in the conditioning agent intended.

Claim 25 is indefinite because it contains idiomatic English, i.e., it contains no active verb.

Claim interpretation

5. Claim 1 would read more clearly with a semi-colon after "mixtures thereof" in the penultimate line. Applicants' claims the components of the conditioning agent ((a) polysuccinimide species and (b) fatty acids or their derivatives) "in combination" but does not define the term "in combination". Applicants do not define said term, said term take the plain meaning in the art and would be open the chemically combined as well as physically combined.

The fatty acid derivatives are more specifically defined at page 12, lines 10-19, of the instant specification. The term "active content" is defined at page 6, lines 23-27, of the instant specification. In claim 1, the term "active content" only refers to the first species of the alternative grouping, i.e., polysuccinamide.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-8, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Characklis 4,561,981 in view of Groth et al. 5,371,180. Characklis (esp. Examples I and II, noting also column 2, lines 23-26 as to slow release; and column 3, lines 11-17 as to use in aqueous media such as water) disclose microcapsules containing fouling control chemicals, such as scaling and general deposit control, biological fouling control and corrosion control (column 3, line 25 - column 4, line 30). In Characklis, the scaling and general deposit control agents may be dispersants (e.g. lignosulfonates), surfactants, chelating agents (e.g. EDTA) and various scale control polymers, while the corrosion control additive may be, inter alia, amyl stearate (a fatty acid derivative). While Characklis may not exemplify microcapsules containing polysuccinimide and amyl stearate, it would have been obvious to one skilled in the art at the time applicants'

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invention was made to make microcapsules according to Characklis containing polysuccinimide, which Groth et al. (column 4, lines 25-28) teach have many useful functions, i.e. dispersing agent, sequestering agent, scale inhibitor, etc. and the amyl stearate of Characklis (column 4, line 13) as corrosion inhibitor to obtain a slow release conditioning agent for use in aqueous media having several useful functions. The use of known additives for their known functions lacks patentable significance. In this connection, see *In re Sussman*, 554 O.G. 177 1943 C.D. 518. As to claim 7 herein, it would further have been obvious to one skilled in the art at the time applicants' invention was made to incorporate an oxidizing biocide in the microcapsules of Characklis, modified as above by Groth et al., in view of Characklis (column 3, lines 41-45) to further enhance the corrosion inhibiting effect thereof. See the above-cited *In re Sussman* decision and *In re Kerkhoven*, 205 USPQ 1069. The language in Characklis (column 1, lines 6-39) is suggestive of the use in claim 25 herein.

Response to Arguments

9. Applicant's arguments filed October 20, 2003 have been fully considered but they are not persuasive.

10. Applicants note the objection. Attention is directed to the above section denoted, *Response to Amendment*.

11. Applicants' (pages 7 and 8) arguments regarding the rejections under 35 USC 112 have been addressed in the rejection and are incorporated herein. The claim is directed to a conditioning agent defining the concentration of the polysuccinamide (PSI)

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based on the method of use parameters, wherein said method of use parameters have not been defined. Therefore, the concentration is indefinite.

While applicants define a fixed amount of cubic metres of water, said water is the water employed when using the compositions. The concentration reference based on the water volume does not define the amount of polysuccinimide in the conditioning agent because the concentration of the conditioning agent employed in the water system is not set forth, which would enable one skilled in the art to calculate said concentration in the agent.

12. The rejection of the claims 25 and 26 as indefinite based on the claims as duplicate claims has been withdrawn. Claim 25 remains indefinite as it contains no active verb.

13. Applicants (pages 8 and 9) assert the prior art must contain some motivation to modify the prior art to the invention as claimed. This is clearly set forth in the office action and has not been addressed by applicants. The Groth et al reference discloses the polysuccinimides functioning as dispersing agents, sequestering agents, and scale inhibitors among others. Absent a showing otherwise, one skilled in the art at the time of applicants' invention would have been motivated to use the polysuccinimides for their multiple functions disclosed in the Groth et al reference and would have reasonably expected the said polysuccinimides to function at least similar to the dispersing, sequestering or scale inhibiting agents disclosed in the Characklis reference.

14. Applicants' (page 9) assertions that in the instant invention the PSI has no ionic component are inconsistent with the claims that clearly contemplate partial hydrolysates of polysuccinimides. Furthermore, Groth et al (example 4) clearly contemplates PSI/polysuccinimide mixtures.

15. Applicants (page 9) assert Characklis discloses microencapsulating fouling control chemicals and slow release capsules. Applicant asserts the instant invention is directed to conditioning agent that include an active content that has no ionic functionalization, "therefore is almost not soluble in water" and thus is slow release. Applicants further assert the microencapsulation is not necessary for the slow release. This has not been deemed persuasive for the following reasons.

(1) Applicants' claims do not, with the exception of claim 8, require any property of controlled release or slow release and none of the claims define the water solubility of the materials in the claims. (2) The "active content" refers to the first of the PSI species in the claim and the claims read on partially hydrolyzed PSI, which would have been expected to be at least partially ionic. (3) Applicants claims do not exclude the use of microencapsulated materials. In fact, applicants clearly contemplate other application forms as stated at page 12, lines 1 et seq, of the instant specification. It is pointed out that claims are given their broadest reasonable interpretation consistent with the specification during patent examination.

16. Applicants (page 9) assert the Groth et al reference does not disclose or suggest a water conditioning agent including a component of an active content of, for example PSI and water. Initially, it is unclear where in the claims applicants claim water as a part

of the conditioning agent. Water is clearly claimed as the component conditioned but the claims are directed to the conditioning agent and not to the methods of treating said water component.

Furthermore, the rejection is based on the reference combination rather than Groth et al alone. Groth et al discloses the use of the PSI materials in treating aqueous systems as clearly set forth in column 6, lines 19 et seq..

17. Regarding applicants' arguments (page 10) to the slow release of the claimed compositions, attention is directed to the above comments regarding the scope of the claimed subject matter. Also, the Characklis reference teaches controlled release of the ingredients and applicants contemplate other forms of the compositions as set forth above. The slow release of said materials is clearly encompassed by the combination of references relied upon.

18. Lastly, the solubilizing process itself would not be expected to be instantaneous and some rate of release would be expected. Applicants have not defined or pointed out how said limitation in claim 8 would distinguish over the combination of the prior art references cited.

19. Applicants (page 10) assert the Groth et al reference is directed to problems that have already occurred rather than the functions of controlled release to prevent the occurrence of said problems. Applicants' argument is directed to the method of using said conditioning agent rather than to the conditioning agent itself. While said argument may have merit for methods of using said conditioning agents, said arguments have little or no weight for the compositions which may be used to treat existing problems.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wood et al, 5,552,518, (column 3, lines 19 et seq) teaches fatty acids in combination with hydrolyzed reaction products of maleic anhydride and ammonia or amines with fatty acids to modify the hydrophobic/hydrophilic ratio. Please note (examples) the reaction products are insoluble in water.

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone

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number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1089.

A handwritten signature in black ink, appearing to read "Daniel S. Metzmaier". The signature is fluid and cursive, with a large, stylized initial "D".

Daniel S. Metzmaier
Primary Examiner
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DSM